

## WHAT IS CLAIMED IS:

## 1. A network system, including:

a client terminal which requests a peer-to-peer communication; and

a host terminal which supports establishing a connection of the peer-to-peer communication,

wherein said client terminal generates a request message that contains an IP address of said own client terminal, and said client terminal sends out the request message to said host terminal via a transmission mail server,

wherein said host terminal acquires the request message via a reception mail server, said host terminal extracts the IP address of said client terminal from a description content of the request message, said host terminal stores the extracted IP address in a table, said host terminal selects at least one IP address from the table and generates a reply message containing the thus selected at least one IP address, and said host terminal sends out the reply message to said client terminal via the transmission mail server, and

wherein said client terminal acquires the reply message via the reception mail server, said client terminal extracts at least one IP address of other terminals from a description content of the reply message, and said client terminal starts a peer-to-peer communication of data

transmission and reception with another terminal which is specified based on the thus extracted IP address.

2. A method of establishing a network connection, the method including:

generating a request message that contains an IP address of a client terminal requesting a peer-to-peer communication;

sending out the request message, via a transmission mail server, to a host terminal that supports establishing a connection of the peer-to-peer communication;

acquiring by the host terminal the request message via a reception mail server;

extracting by the host terminal the IP address of the client terminal from a description content of the request message;

storing by the host terminal the IP address extracted by said extracting, in a table;

selecting by the host terminal at least one IP address from the table and generating a reply message that contains the at least one IP address thus selected;

sending out by the host terminal the reply message to the client terminal, via the transmission mail server;

acquiring by the client terminal the reply message, via the reception mail server;

extracting by the client terminal at least one IP

address of other terminals from a description content of the reply message; and

starting a peer-to-peer communication of data transmission and reception with other terminals which are specified based on the IP address extracted by the client terminal in said extracting.

3. A method according to Claim 2, wherein said generating a request message includes encrypting the IP address and including the thus encrypted IP address in the request message, and wherein said extracting by the host terminal includes extracting the encrypted message from the request message and decoding the thus extracted encrypted message.

4. A method according to Claim 2, wherein said generating a reply message includes encrypting the at least one IP address and including the thus encrypted IP address in the reply message, and wherein said selecting by the host terminal includes selecting the encrypted at least one IP address and then decoding it.

5. A network terminal, including:

a data generator which generates a request message that contains an IP address of own terminal;

a mail transmission and reception unit which sends out the request message to a terminal serving as a host, via a

transmission mail server, and which acquires a reply message serving as a response sent from the terminal serving as a host, via a reception mail server;

a selection processing unit which extracts at least one IP address of other terminals from a description content of the reply message; and

a data exchanging unit which starts a peer-to-peer communication of data transmission and reception with another terminal which is specified based on the IP address extracted by said selection processing unit.

6. A network terminal according to Claim 5, wherein said data generator encrypts the IP address and has the encrypted IP address contained in the request message, and said selection processing unit extracts the encrypted IP address from the reply message and decodes the extracted IP address.

7. A network terminal according to Claim 5, wherein, if unsuccessful is data transmission and reception with a destination terminal whose IP address is the extracted IP address, said data generator generates a message containing said IP address, and wherein said mail transmission and reception unit sends out to the terminal serving as a host said message indicative of an unsuccessful connection.

8. A network terminal, including:

a mail transmission and reception unit which acquires, via a reception mail server, a request message containing an IP address of a terminal that requests a peer-to-peer communication;

an extraction processing unit which extracts the IP address from a description content of the request message;

an address storage unit which stores the extracted IP address in a table; and

a data generator which selects at least one IP address from a storage content of the table and generates a reply message that contains the thus selected IP address,

wherein said mail transmission and reception unit sends out the reply message to the requesting terminal, via a transmission mail server.

9. A network terminal according to Claim 8, wherein said extraction processing unit extracts an encrypted IP address from a description content of the request message and decodes the encrypted IP address, and wherein said data generator encrypts the at least one IP address and has this encrypted IP address included in the reply message.

10. A network terminal according to Claim 8, wherein said address storage unit restricts the number of IP addresses to be stored in the table, and overwrites IP addresses stored in the past by those to be stored anew.

11. A network terminal according to Claim 8, wherein said data generator selects from the storage content of the table an IP address stored more recently.

12. A network terminal according to Claim 8, wherein said mail transmission and reception unit acquires a message containing an IP address of a destination terminal with which the requesting terminal fails to start the data transmission and reception, via the reception mail server, and said extraction processing unit extracts the failure IP address from a description content of the message, and wherein said address storage unit distinguishes the failure IP address from other IP addresses.

13. A method of establishing a network connection, the method including:

generating a request message containing an IP address of a terminal that requests a peer-to-peer communication;

sending out the request message to a terminal serving as a host, via a transmission mail server;

acquiring a reply message serving as a response sent from the terminal serving as a host, via a reception mail server;

extracting at least one IP address of other terminals from a description content of the reply message; and

starting a peer-to-peer communication of data transmission and reception with another terminal which is specified based on the IP address extracted by said extracting.

14. A method of establishing a network connection, the method including:

acquiring, via a reception mail server, a request message containing an IP address of a terminal that requests a peer-to-peer communication;

extracting the IP address from a description content of the request message;

storing the extracted IP address in a table;

selecting at least one IP address from a storage content of the table and generating a reply message that contains the thus selected IP address; and

sending out the reply message to the requesting terminal, via a transmission mail server.

15. A program executable by a computer, the program including the functions of:

generating a request message containing an IP address of a terminal that requests a peer-to-peer communication;

sending out the request message to a terminal serving as a host, via a transmission mail server;

acquiring a reply message serving as a response sent

from the terminal serving as a host, via a reception mail server;

extracting at least one IP address of other terminals from a description content of the reply message; and

starting a peer-to-peer communication of data transmission and reception with another terminal which is specified based on the IP address extracted by the extracting.

16. A program executable by a computer, the program including the functions of:

acquiring, via a reception mail server, a request message containing an IP address of a terminal that requests a peer-to-peer communication;

extracting the IP address from a description content of the request message;

storing the extracted IP address in a table;

selecting at least one IP address from a storage content of the table and generating a reply message that contains the thus selected IP address; and

sending out the reply message to the requesting terminal, via a transmission mail server.

17. A computer-readable recording medium which stores a program executable by a computer, the program including the functions of:



generating a request message containing an IP address of a terminal that requests a peer-to-peer communication;

sending out the request message to a terminal serving as a host, via a transmission mail server;

acquiring a reply message serving as a response sent from the terminal serving as a host, via a reception mail server;

extracting at least one IP address of other terminals from a description content of the reply message; and

starting a peer-to-peer communication of data transmission and reception with another terminal which is specified based on the IP address extracted by the extracting.

18. A computer-readable recording medium which stores a program executable by a computer, the program including the functions of:

acquiring, via a reception mail server, a request message containing an IP address of a terminal that requests a peer-to-peer communication;

extracting the IP address from a description content of the request message;

storing the extracted IP address in a table;

selecting at least one IP address from a storage content of the table and generating a reply message that contains the thus selected IP address; and

sending out the reply message to the requesting terminal, via a transmission mail server.